

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
5 April 2001 (05.04.2001)

PCT

(10) International Publication Number  
**WO 01/24077 A1**

(51) International Patent Classification<sup>7</sup>: G06F 17/60

(21) International Application Number: PCT/FI00/00846

(22) International Filing Date: 2 October 2000 (02.10.2000)

(25) Filing Language: Finnish

(26) Publication Language: English

(30) Priority Data:  
19992110 30 September 1999 (30.09.1999) FI  
20001255 25 May 2000 (25.05.2000) FI

(71) Applicant and

(72) Inventor: RUUTTU, Jari [FI/FI]; Ruukintie 4, FIN-10330  
Billnäs (FI).

(74) Agent: BERGGREN OY AB; P.O. Box 16, FIN-00101  
Helsinki (FI).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR ACQUIRING A CERTAIN PRODUCT THROUGH THE INTERNET

(57) Abstract: The invention relates to a method for acquiring a product in one of the following groups (a-c) through the Internet, which product groups include among others: a) detached houses and planning, preparations and production related to it, materials and colours of the exterior, materials and colours of roofs, selection of windows, selection and planning of doors, selection of base structures, i.e. footing; b) decoration and furnishing of houses, such as: selection of floor materials, selection of paints for walls and ceilings, design and selection of wall papers, selection of kitchen fittings, kitchenware, design and selection of fittings of the interior of sauna, selection of cabinets and fittings, panel plates, signs, showcases of glass; c) railing constructions: inner railings, outer railings. The customer himself gets into contact with the Internet-program of the manufacturing company of some of above-mentioned products and designs the appearance, chooses the materials and colours, sizes, etc. and feeds the measure and quantities of the products into the program by computer, after which the customer transmits the data on the products he has designed to the file, i.e. order service of the company manufacturing the product, the program of the manufacturing company chooses the suitable production methods and process steps, by which the measures, appearances and surface patterns of the products can be achieved and the company stores or sends the customer the completed products designed by him.

WO 01/24077 A1



**Method for acquiring a certain product through the Internet**

The present invention relates to a method for acquiring a product belonging to group a), b) or c), through the Internet, which product groups include among others:

- 5 a) detached houses and planning, preparations and production connected with them
  - materials and colours of the exterior
  - materials and colours of roofs
  - selection of windows
  - selection and planning of doors
- 10 - selection of base structures, i.e. footing
- b) interior decoration and furnishing of houses, such as:
  - selection of floor materials
  - selection of paints for walls and ceilings
  - design and selection of wall papers
- 15 - selection of kitchen fitments
  - kitchenware
  - design and selection of fitments for the interior of sauna
  - selection of cabinets and fittings
- panel plates
- 20 - signs
- showcases of glass
- c) railing constructions:
  - inner railings
  - outer railings.
- 25 In methods known *per se*, which can be used for ordering different products through the Internet, one must choose the desired products from a given assortment. For example, order programs concerning the building and the interior decoration only cover ready solutions. Corresponding products for the building and the interior decoration of home can also be found in different product catalogues.
- 30 The object of this invention is to create a new method, by which the customer can dimension and design for example surfaces in the bathroom and sanitary premises and to the rooms and products belonging to these premises. Characteristic of the method according to the invention is that the customer himself contacts the Internet

program of some company manufacturing above-mentioned products and designs the appearance, chooses materials and colours, sizes etc., and feeds the measures and quantities of the products to the program by computer, after which the customer sends the data on the products he has designed to the file, i.e. order service of the manufacturing company, the program of the company manufacturing the product selects the suitable production methods and process steps, by which the measures, appearances and surface patterns of the products can be achieved and the company stores or sends the completed products designed by the customer to him.

- 10 The method is based on the simple solution that the program devised for digital control of predetermined work processes can be used also for designing the necessary products, which will thus be done by the customer.

15 This means that all the process steps can be created digitally, i.e. digital signal can be converted under control into the desired end product.

For example a surface pattern can be turned into DC-flow, a pulse, or the pneumatics can be controlled so that it is possible create, for example by laser cutting or by glazing the surface pattern and measures created by the customer, when the product has been appropriately fitted at the so called work station, i.e. the 0-point of the product tallies with the 0-point of the digital file in the xyz-coordinate system.

Consequently, the method is totally new: the customer/user gets into contact with the file, i.e. the website of the company manufacturing the products through the Internet on his own computer.

25 On the website the customer can use the program free of charge, which enables designing of the products in digital form on his own computer.

When the customer has made a design work that he accepts using the program, i.e. the products correspond to his intentions, he sends the pictures back to the file of the manufacturing company and the manufacture can be started immediately.

30 The program created for this method is compatible both in terms of production and design, and what is more, both the customer's design work and the control of the production are performed using one single program, where data is transmitted in digital form between the customer and the manufacturer through the Internet.

The program has been devised so as to allow the design of such products alone that can be manufactured, i.e. it has been decided in advance what is to be manufactured,

from which material and in which way, i.e. the working method (process). Thus, the program allows the design of such products alone that can be manufactured in the production process.

5 Since all operations are performed in digital form, the design, the transmission from the Internet, i.e. the program and the finished design work and the production, i.e. the production control, the finished product is always one hundred percent what the customer has ordered.

Different embodiments of the invention have been presented in the dependent claims of the set of claims.

10 Since the product segment is wider and since it is possible to affect the geometry of the part products, it is necessary to make a program package addressed to the customer so that it can be split into so called procedures, modems, whereupon one program segment always covers one product or upgrading method or similar. The customer can naturally take the whole package but it may be easier to take the necessary segments one by one. Otherwise the program itself can become too slow. Besides, it is not possible to know beforehand, if the customer is only going to design for example one stone floor or for example an entire larger object, such as all bath and sanitary premises of a hotel.

20 The customer can take the whole program or a part of it, whichever he thinks is best, or he can use the direct Internet-connection, the so-called active direct line. In large complicated work, in which the capacity of one's own PC is not adequate, it can also be thought that the registered customer makes only a part of the work himself, gives instructions to the manufacturing company or to an outsider and gets back the completed work, all naturally being under the item "customer's".

25 The program of the method both sets the customer limitations and gives him freedoms. The customer cannot without special permission influence the so-called prior art of the product, in other words technical constructions, technical structure or similar.

30 The program thus includes a so-called "construction (ccp) checking program", which ensures that the work performed meets the requirements on the strength of materials. The program also inquires the target and the country, if this is not apparent from the contact information. However, the program is created such that the ccp always sees to that a defect product cannot be ordered. The ccp also informs this to the customer and proposes an improvement.

The program is also created such that it informs the material, the chemical endurance and other crucial information that the customer should and is entitled to know.

The program can of course be made such that only creating material thickness and constructions exceeding certain minimum requirements is allowed.

- 5    The program thus also includes a ccp + state line, which stands for the orders of the authorities within the scope of the program for example by countries or in the EU.

The program will within the scope of ccp allow for

1.    matters concerning strength of materials
2.    matters concerning structural engineering
- 10    3.    orders of the authorities, for example safety standards
4.    orders of the construction legislation (construction standards)
5.    regulations on different fields, for example ships → Norske Veritas i.e. orders (recommendations) of classification societies.

- 15    A product hazardous for the customer or environment or health can easily be excluded, i.e. the customer cannot even create one.

Other restrictions of the program are always connected with the prior art and the technical construction of the product, in which the customer thus cannot influence without permission of the manufacturing company, and does not contravene the items 1-5 mentioned above, if it is a commercial public project.

- 20    In order to be able to use the program the customer will commit to comply with the instructions of the manufacturing company regarding the above-mentioned.

- 25    Technical and legal aspects have thus been taken into consideration in the program, which naturally sets limitations and there are also production technological reasons, which set limitations, but on the whole the customer has complete freedom concerning the surfaces.

Also segments of the so called "architectural view"-program can be included in the program, which include for example the product segment of the target area available in the world.

- 30    The so-called passive part can be expanded indefinitely, depending on the market situation, general interest etc.

The main program of the design itself has naturally been devised such that it is easy to use, i.e. the customer does not have to take a stand on the production technology and the process itself and not on the technical solutions either. The main program and the subprograms give the user free hands for the design work, without having to understand the different techniques.

As it has been presented in daily newspapers, the customer has through the Internet in his disposal a program, by which it is possible to decorate buildings both outside and inside, but the products are in their completed form. The customer cannot himself design his product but he has to choose between completed surfaces and products available. In this respect the invention presented here differs from other known programs.

Production techniques include the following methods:

#### **A. Coating methods**

1. Silver plating (plating with metal chemically, silver)
2. Vacuum vaporization (metal, gas, other materials)
3. Plating with metal, chemical (glass + ceramics, firing)
4. Electrocatalytic coating (only for metals)
5. Ceramic coating (=glazing, enamelling)
6. Patination (chemical process)

#### **B. Methods of working** (always in 2d or 3d form)

1. Laser tooling/engraving
2. Manufacturing techniques of hologram (genuine + others)
3. Laser printer techniques
4. Colour/ink-jet printer techniques
5. Screen printing techniques
6. Air pressure/electrical spraying techniques
7. Piezo spraying techniques
8. Offset and other printing techniques
9. Mechanical milling/engraving
10. Laser or water cutting
11. Aquagraphics
12. Lamination
13. Film technique
14. Wood lamination

**C. Methods of working (processing of metal)**

1. Edging techniques
2. Die-stamping/pressing techniques
3. Deep drawing/cam turning
- 5 4. Other processing of metal
5. Soldering, welding and other joining techniques of metal
6. Pressure/free casting
7. Other known technique

10 The invention is explained below by means of examples and with reference to the accompanying drawings, in which

figures 1 and 2 illustrate panels,  
figure 3 illustrates a sign, and  
figures 4-6 illustrate a railing solution,  
figure 7 illustrates a showcase of glass.

- 15 A panel intended for decorative use can be for example a classic 600x600 mm panel by measures, as in figure 1, in which the material is metal, steel, copper etc. The panel can be flat or ascending towards the centre from the edges.

20 The panel can be upgraded by some or by a combination of these: production techniques A, coating methods 2, 4, 5 and 6, and method of working B, 1-13 and methods of working C, 1-7. Directly or indirectly performed on the product.

25 The product can be for example coated with genuine wood veneer or coated with another metal, for example by electrocatalytic coating, after which pictures are formed for example by laser tooling/engraving or 4-colour patterning is formed by one of the presented printing techniques directly on the workpiece or indirectly by a laminated printed plastic film.

30 The same conditions are valid in panels intended for use out of the house as for panels for internal use, and it must be noted that in both cases the customer can influence not only the size and shape but also the 3d-form of the surface itself. "Panel" is usually understood as a small surface, for example 600x600 mm, but the size can be decided by the customer. A panel can of course also mean larger surfaces, such as inner surfaces of lifts, doors, walls, ceilings etc.

The variety of production techniques presented above is vast and it is unnecessary to separately list all possible ways to manufacture the product, because the list of production technologies shows, makes it understandable, what can be manufactured and how.

- 5    Figure 1    illustrates a typical panel for interior decoration from metal, by measures for example 600x600 mm or 500x500 mm,

figure 2    illustrates a typical situation in which the customer has designed the outer shapes of a wall. Panels 1, 2, 3 can be of different sizes, but yet a picture covering the whole wall can be formed although the panels are separate.

- 10   In the simplest railing construction there are for example only vertical supporting pillars 9, 8, 10 of figure 4 and upper horizontal bar 1, whose material can be for example RST or copper without any upgrading.

The example case of Figures 4, 5 and 6 illustrates a "railing" upgraded as much as possible, which is typically used in hotels, cruisers, etc.

- 15   Figure 4 shows the outer shapes, for example the metal parts, designed by the customer: upper horizontal bar 1, lower horizontal railing pipe 6, fasteners 4 connected with them, vertical pillar 9, with fastening plates 10 and connecting part 8 of the horizontal railing pipe 1. Copper plated with gold has been chosen as the raw material.

- 20   The material of the middle part 5 can be metal, plywood or glass.

In the example case the customer has also designed the dimensioning i.e. the heights and lengths of the parts and placed the clamps 4 in desired places, as also the middle part itself, i.e. the customer has influenced the 3d-format.

- 25   Parts 1, 4, 6, 8, 9 and 10 of Figure 4 have been made from copper and are plated with 22K gold.

The program selects the right production technique, the coating methods A, electrocatalytic method 4, whereupon the parts have first been made to the shape where the coating process itself is possible, meaning mechanical grinding or polishing with electrocatalysis.

- 30   The parts are first cleaned in hydrochlorid acid or sulphuric acid bath, after which the coating process can be started. The copper is first coated with copper because



one wants to have a glossy end result, to even the pores and to have more glow. The next layer is the nickel layer, which functions as the prepared surface for the downstream operation and acts as non-conductor to prevent formation of the so-called electrochemical element.

- 5 Because the decorative surfaces 12 and 13 presented in Figures 5 and 6, which the customer has designed shining black, the program chooses the ruthenium platenoid as the next material to be coated and only on top of this the final plating, 22K gold.

10 In the next phase the ornaments presented in Figures 5 and 6 are produced by laser tooling/engraving, whereupon the gold surface is removed from desired areas, whereupon the appearance designed by the customer is formed.

The middle part 5 of Figure 4 has been made from metal, for example from 1,0 mm steel sheet. The appearance designed by the customer comprises a 4-colour patterning, for which it is possible to use two different methods, see methods of working B 4-8 with printing inks suitable for metals or to manufacture the product by coating  
15 methods, see A 5.

The customer has designed an appearance, in which the surface has been worked up mechanically, see production techniques C pressing technology 2, or other working up of metal 4.

20 The metal surface of the product has been placed under mechanical pressure between two die-plates that fit together. The metal plate is thus formed according to the surfaces of the die-plates. The die-plates can be big, for example of the size of the product or only a part of it, for example only of a size of a point. If so, several strikes must be performed in order to form a desired pattern.

25 The die-cutting plates, for example, can be of different forms and sizes; a circle, a square, a triangle, etc. Also patterns or combinations of letters can be formed on the plates.

In the examples presented above, Internet has been used, but it is obvious that also other existing or future interfaces known as such can be used.

30 A showcase of glass, which has a framework 1, 2 made from metal profile, walls 6 and shelves 3 of glass, has been presented in Figure 7. Inside the showcase there is a lamp 5. Space 4 can be reserved for advertisements, for example.

## Claims

1. A method for acquiring a product in some of the following groups (a-c) through the Internet, which product groups include, among others:

- a) detached housed and planning, preparations and production connected with them
  - 5 - materials and colours of the exterior
  - materials and colours of roofs
  - selection of windows
  - selection and planning of doors
  - selection of base structures, i.e. footing
- 10 b) decoration and furnishing of houses, such as:
  - selection of floor materials
  - selection of paints for walls and ceilings
  - design and selection of wall papers
  - selection of kitchen fitments
  - 15 - kitchenware
  - design and selection of fitments for the interior of sauna
  - selection of cabinets and fittings
  - panel plates
  - signs
  - 20 - showcases of glass
- c) railing constructions:
  - inner railings
  - outer railings

25 **characterized** in that the customer himself contacts the Internet program of the manufacturing company of one of the above-mentioned products and designs the appearance, chooses the materials and colours, sizes, etc. and feeds the measures and quantity of the products into the program by computer, after which the customer transmits the data concerning the products he has designed to the manufacturer's file, i.e. order service, the manufacturer's program chooses the suitable production  
30 methods and process steps, by which the measures, appearances and surface patterns of the products can be achieved and the company stores or sends the completed products designed by the customer to him.

2. A method according to claim 1, **characterized** in that the coating methods of the products include:

- a) chemical plating with metal, such as silver plating,
  - b) plating with metal by vacuum vaporization,
  - c) chemical plating with metal combined with glazing or ceramization and firing,
  - d) ceramic coating,
  - 5 e) patination.
3. A method according to claim 1 or 2, **characterized** in that the following methods of working are included in the working up and coating of the products:
- a) laser tooling/engraving,
  - b) manufacturing techniques of holograms,
  - 10 c) laser printer techniques,
  - d) colour/in-jet printer technologies,
  - e) screen printing techniques,
  - f) piezo spraying techniques,
  - g) offset and other known printing techniques,
  - 15 h) mechanical milling/engraving and grinding,
  - i) laser or water cutting
  - j) a process on a work table with 2 or 3 shafts with striking tools for stone products,
  - k) aquagraphics,
  - 20 l) lamination
  - m) film technique
  - n) wood lamination.
4. A method according to one of the preceding claims, **characterized** in that the design and manufacture process is performed completely in digital form.
- 25 5. A method according to one of the preceding claims, **characterized** in that the customer first chooses the basic material of the product, such as a light blue ceramic tile or a mirror door of a cabinet, after which the surface pattern and the tint are planned in the upgrading methods.

1/4

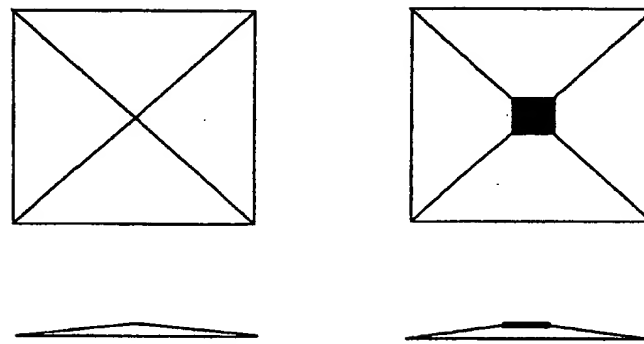


Fig. 1

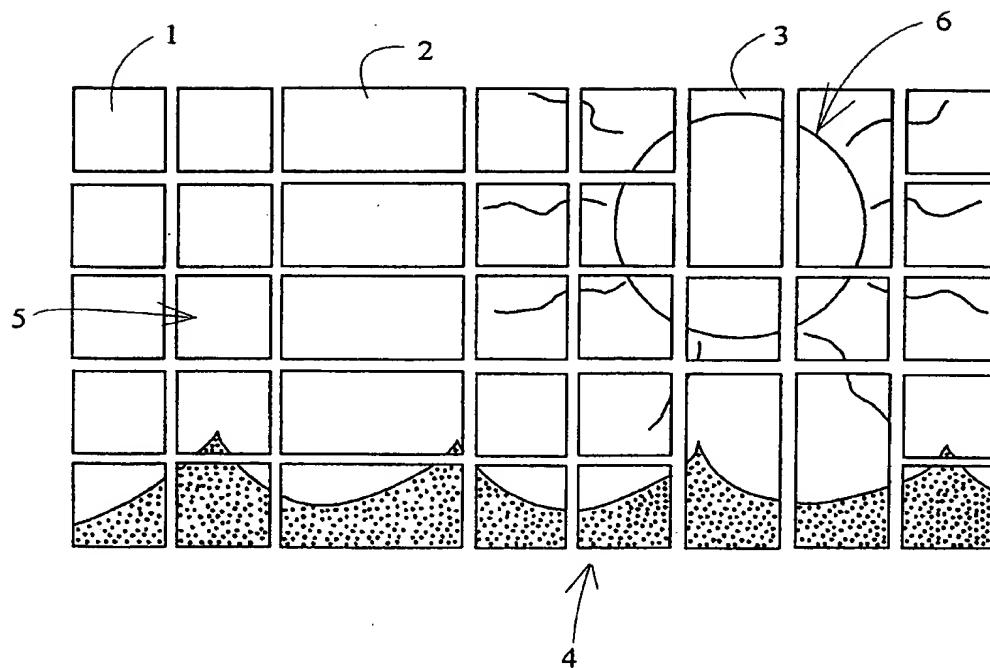


Fig. 2

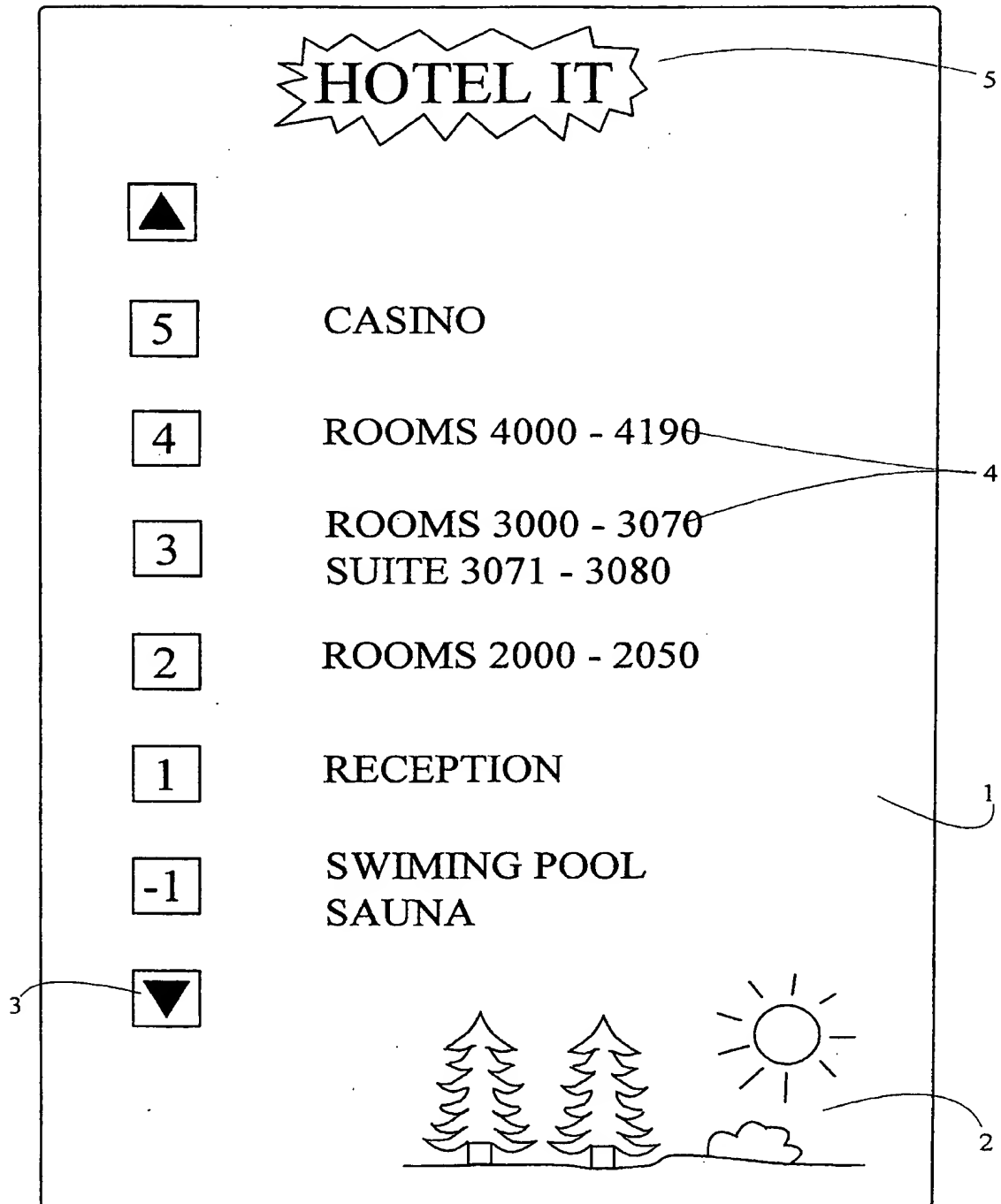


Fig. 3

3/4

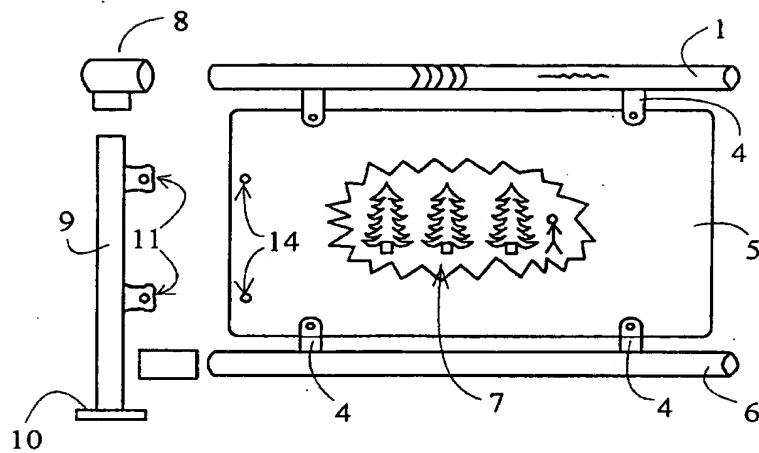


Fig. 4



Fig. 5

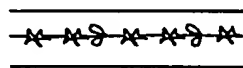


Fig. 6

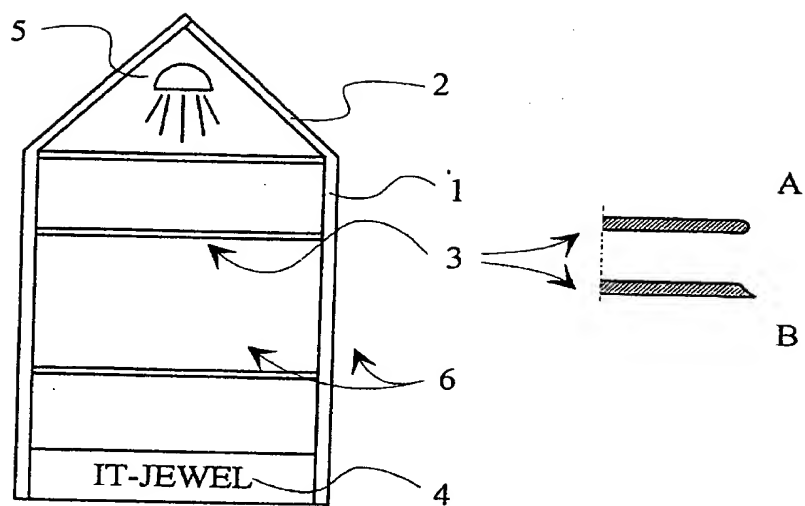


Fig. 7

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00846

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9852144 A1 (METROLOGIC INSTRUMENTS, INC.), 19 November 1998 (19.11.98), the whole document --	1-5
A	US 5570292 A (ABRAHAM ET AL.), 29 October 1996 (29.10.96), the whole document --	1-5
A	EP 0801355 A2 (BAKER HUGHES INCORPORATED), 15 October 1997 (15.10.97), the whole document --	1-5
A	WO 9815908 A1 (CITIZEN WATCH CO., LTD.), 16 April 1998 (16.04.98), the whole document -- -----	1-5

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

8 January 2001

Date of mailing of the international search report

15 -01- 2001

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Jesper Bergstrand /OGU

Telephone No. +46 8 782 25 00



# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FI00/00846

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-5  
because they relate to subject matter not required to be searched by this Authority, namely:  
.../...
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/FI00/00846

A method of doing business.

According to Rule 39 no search is required since the subject matter of the claimed invention concerns a method of doing business.

Despite this fact a search has been performed and thus a search report has been established.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

04/12/00

International application No.  
**PCT/FI 00/00846**

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
WO	9852144	A1	19/11/98	AU	7570098	A	08/12/98
				CN	1255217	T	31/05/00
				EP	0983570	A	08/03/00
				GB	2341251	A	08/03/00
				GB	9926738	D	00/00/00
				US	6085978	A	11/07/00
<hr/>							
US	5570292	A	29/10/96	CA	2142484	A	15/08/95
<hr/>							
EP	0801355	A2	15/10/97	JP	10063712	A	06/03/98
<hr/>							
WO	9815908	A1	16/04/98	CN	1237255	A	01/12/99
				EP	1020807	A	19/07/00
<hr/>							